MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE. Assistant Editor: CLEVELAND ABBE, jr.

Vol. XXXVI.

DECEMBER, 1908.

No. 12

The Monthly Weather Review summarizes the current manuscript data received from about 3,500 land stations in the United States and about 1,250 ocean vessels; it also gives the general results of the study of daily weather maps based on telegrams or cablegrams from about 200 North American and 40 European, Asiatic, and oceanic stations.

The hearty interest shown by all observers and correspon-

dents is gratefully recognized.

Acknowledgment is also made of the specific cooperation of the following chiefs of independent, local, or governmental services: R. F. Stupart, Esq., Director of the Meteorological Service of the Dominion of Canada; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Capt. I. S. Kimball, General Superintendent of the United States Life-Saving Service; Commandant Francisco S. Chaves, Director of the Meteorological Service of the Azores, Ponta Delgada, St. Michaels, Azores; W. N. Shaw, Esq., Director Meteorological Office, London; Maxwell Hall, Esq., Govern-

ment Meteorologist, Kingston, Jamaica; Rev. L. Gangoiti, Director of the Meteorological Observatory of Belen College, Havana, Cuba; Luis G. y Carbonell, Director, Meteorological Service of Cuba, Havana, Cuba; Rev. José Algué, S. J., Director of the Weather Bureau, Manila Central Observatory, Philippines; Maj. Gen. M. A. Rykachef, Director of the Physical Central Observatory, St. Petersburg, Russia; Carl Ryder, Director, Danish Meteorological Institute, Copenhagen, Denmark.

As far as practicable the time of the seventy-fifth meridian is used in the text of the Monthly Weather Review.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

As a rule temperatures were above the December average, except in the Pacific States, and there was no cold weather of consequence, except a little in the Northwest at the end of the month.

Precipitation was slightly in excess over portions of the Middle Atlantic States, but generally deficient elsewhere. There was a single heavy snow in the Middle Atlantic States, and over the middle and southern Rocky Mountain districts the snowfall was more abundant than usual at this season of

the year.

A disturbance that moved down the eastern slope of the Rocky Mountains on the 4th and 5th, turned northeastward after reaching the Texas Panhandle, moving as a long trough with two distinct centers that finally joined into a single severe storm over New England on the evening of the 7th. This storm was attended by general rains and snows over the eastern half of the country and severe gales in the Lake region and the Middle and North Atlantic States. No cold followed, except in the South, where freezing temperatures were quite general on the morning of the 9th, except along the coast. Another storm appeared in British Columbia on the 9th, and reached New England on the 12th with greatly increased development. This storm was attended by general rains and snows over the northern districts, but was without high winds, and it was not followed by cold. There were several other quite general rain and snow periods, but none of marked character until the last few days of the month. A depression that appeared over extreme northwest British Columbia on the morning of the 28th moved across the northern portion of the country and reached the Canadian Maritime Provinces on the evening of the 31st. This storm was accompanied by moderate snows and rains and was followed in the Northwest by the only decided cold weather of the month. A moderate disturbance over Georgia on the morning of the 22d, in connection with a marked high area over Ontario, caused in the Middle Atlantic States the heavy snow incident to this type of pressure distribution.

Low pressure, with stormy weather, prevailed quite generally over western Europe from the 8th to the 22d, inclusive, the unsettled weather continuing over Great Britain until the end of the month. Toward the end of the month there was a heavy fall of snow thruout the British Islands and over portions of France.—H. C. Frankenfield, Professor of Meteorology.

BOSTON FORECAST DISTRICT.* [New England.]

The month, as a whole, was exceptionally pleasant for the season. The precipitation was generally near the average in Vermont and eastern Maine, and below in nearly all other parts of the district. The temperatures were generally normal or slightly below in the northern, and above in the southern States. The snowfall was considerably below the average. At the end of the month the water in lakes and rivers was very low, and in Lake Champlain the lowest of record. General heavy rains are much needed in all sections of the district.

Heavy gales swept the entire coast on the 6-7th, with wind velocities approaching hurricane force in all sections. Fortunately there was no loss and little damage to shipping, so far as known at this office.

There were no storms without warnings.—J. W. Smith, District Forecaster.

NEW ORLEANS FORECAST DISTRICT.

[Louisiana, Texas, Oklahoma, and Arkansas.]

The weather during the month was abnormally warm and dry. No severe storm occurred along the Gulf coast and no warnings were issued. Cold-wave warnings were issued on a few dates for limited areas. The conditions on which the warnings were based diminished in intensity and as a result some of the warnings were not verified. No cold waves occurred without warnings. Frosts in the sugar and trucking region were covered by timely warnings.—I. M. Cline, District Forecaster.